General Services Administration National Capital Region
Safety, Environment, & Fire Protection Branch (WPYG)

AUGUST 27, 2009

MEMORANDUM FOR: CARL WHITEHEAD, BUILDING MANAGER
DC SERVICE CENTER (WPJ)

FROM: JAMES HODGES, CHMM
INDUSTRIAL HYGIENIST
SAFETY, ENVIRONMENT AND
FIRE PROTECTION BRANCH (WPYG)

SUBJECT: LIMITED INDOOR AIR QUALITY SURVEY
FLOORS 2, 4, AND 9
3101 PARK CENTER DRIVE
ALEXANDRIA, VA

On July 17, 2009, Applied Environmental, Inc. conducted a limited indoor air quality (IAQ) survey of Floors 2, 4, and 9, within the 3101 Park Center Drive Building. The survey was initiated in response to occupant complaints of poor indoor air quality associated with construction activities. The IAQ survey consisted of the following:

-Visual inspection of the designated areas,

-Respirable Particulates level screening,

-Total Volatile Organic Compounds (TVOCs) air screening, and

-Atmospheric monitoring (CO2, CO, relative humidity, & temperature)

RESULTS:

Visual Inspection

During the survey, renovation activities were ongoing on the 2nd and 4th floors. The 9th floor renovations were completed with the exception of a conference room that was being painted.

A slight paint odor was noted on the 2nd floor adjacent the construction areas.

Atmospheric Monitoring

The American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standard 55-1992 recommends that the temperature of indoor office environments, during summer periods, be maintained between 73° and 79° F. The temperature levels recorded on the day of the screening on the 2nd and 4th Floors ranged from 71.1 ° F to 74.4° F. These temperature levels were slightly below comfort guidelines established by ASHRAE. The temperature levels on the 9th floor ranged from 73.1 ° F to 76.3° F. These temperatures were within the ASHRAE comfort range.

Relative humidity levels ranged from 42.8% to 58.9% indoors. The ASHRAE recommended range is 30-60%. When levels exceed 70%, the environment is conducive to microbial growth.

The carbon dioxide levels ranged from 496 ppm to 693 ppm. The outside level ranged from 422 ppm to 458 ppm. These levels were within the ASHRAE standard indoor-outdoor CO2 concentration differential of less than 700 ppm.

The carbon monoxide levels recorded on the day of the screening were 0.0 ppm. These levels were below the National Ambient Air Quality Standard (NAAQS) for carbon monoxide of 9 ppm, which is referenced in ASHRAE Standards 62-2001 and commonly used in evaluating indoor air quality.

The Total VOC levels measured on the days of the screening ranged from 0.0 ppm to 0.6 ppm. There are currently no governmental standards for TVOCs but according to on-going research, at levels in excess of 1.3 ppm occupant discomfort may be experienced. This level was determined using total volatile organics measured as isobutylene.

The particulate levels measured on the days of the screening, ranged from 0.004 mg/m^3 to 0.024 mg/m^3. These levels were far below the OSHA permissible exposure limit (PEL) for respirable particulates of 5.0 mg/m^3.

CONCLUSIONS/RECOMMENDATIONS:

Upon review of the data provided by Applied Environmental, Inc., all parameters tested were within comfort and regulatory guidelines, with the exception of the temperature levels which were slightly below the comfort range.

The following corrective actions should be implemented to improve occupant comfort.

- Adjust the HVAC system to bring temperature into the ASHRAE summer comfort range (73˚-79˚ F).

If you have any questions regarding the testing, the report, or our suggested plan of action, please contact me at (202) 708-5253.